$$P_{1-\text{year surgery}} = \frac{e^{index}}{1+e^{index}}$$

Where prognostic index

$$= -4.276 + 0.676 \times x_1 + 1.419 \times x_2 - 0.136 \times x_3 + 2.249 \times x_4 + 2.185 \times x_5 + 1.901 \times \mathrm{I}\left[x_6 = \text{stricturing disease}\right] + 2.668 \times \mathrm{I}\left[x_6 = \text{penetrating disease}\right] - 1.333 \times x_7 - 2.423 \times x_8 + 0.022 \times x_9$$

Figure 1. ROC curve of the training and testing data. (A) Predictive ability of this model was appraised with an AUC of 0.947, sensitivity of 75.92%, and specificity of 95.81%. (B) Discrimination of the validated model was estimated with an AUC of 0.937, sensitivity of 67.31%, and specificity of 97.55%. Abbreviations: PPV = positive predictive value; NPV = negative predictive value.

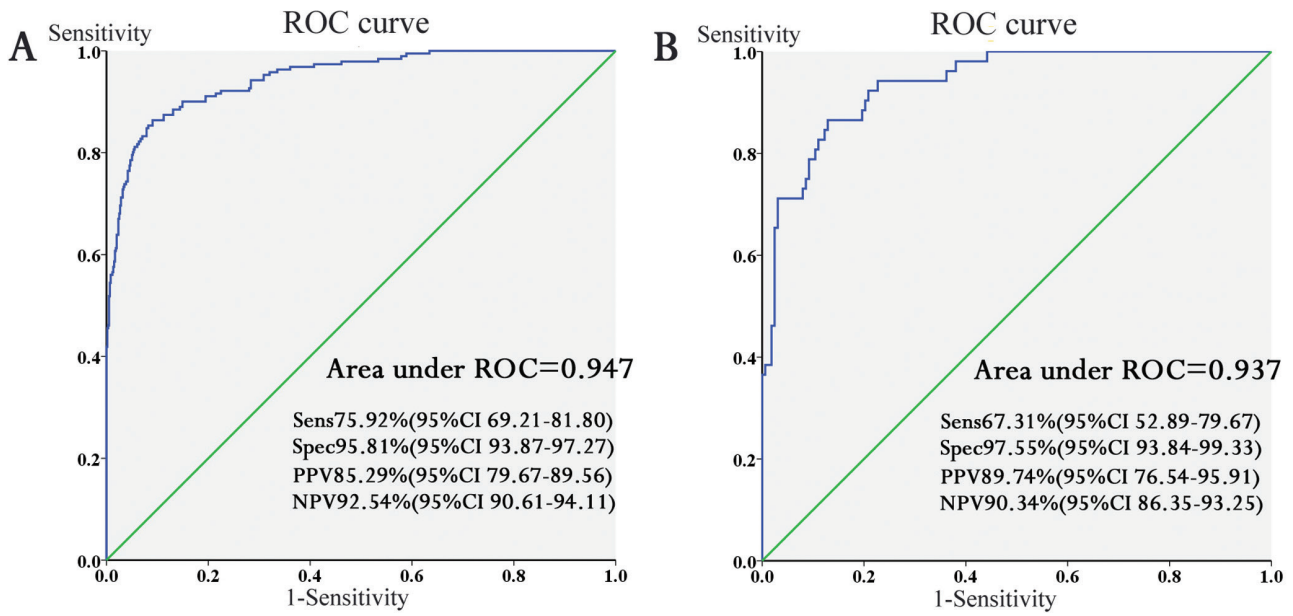

Figure 2. A prognostic nomogram for 1-year surgery in CD patients.

model was established as follows: X_1 = maximum BWT [mm]; X_2 = smoking [0: no, 1: yes]; X_3 = BMI at diagnosis [m/kg^2] ; X_4 = previous perianal surgery [0: no, 1: yes]; X_5 = previous intestinal surgery [0: no, 1: es]; X_6 = disease type (stricturing or penetrating disease); X_7 = use of biologics; X_8 = use of EEN; X_9 = CRP at diagnosis). ROC curve and calculated AUC (94.7%) confirmed an ideal predictive ability of this model with a sensitivity of 75.92% and specificity of 95.81%. Nomogram was developed to simplify the use of predictive model in clinical daily practice.

Conclusion: This prognostic model can effectively predict 1-year risk of CD-related intestinal surgery, which will assist in screening progressive CD patients and aid in tailoring therapeutic management.

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Correlation between physician and patient disease assessments in ulcerative colitis: 2-year UK data from the ICONIC study

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Background: ICONIC is the largest prospective multi-country (*n* = 33) observational study assessing burden in adult ulcerative colitis (UC) patients under routine care. Both patient and physician assessments of disease severity, activity and life impact were captured 6 monthly up to 2 years. This local subanalysis evaluates baseline (BL) characteristics and the extent of agreement between patients and physicians in measures of disease activity in UK patients.

Methods: Adults with early UC (diagnosed ≤36 months) were enrolled irrespective of disease severity or treatment. Patient self-assessments include disease severity, Pictorial Representation of Illness and Self-Measure (PRISM, a tool assessing perception of disease-associated suffering; lower scores indicate greater disease burden), Patient Health Questionnaire-9 (PHQ-9), Short inflammatory bowel disease Questionnaire (SIBDQ) and patient-modified Simple Clinical Colitis Activity Index (P-SCCAI). Physician assessments include clinical parameters, PRISM, SCCAI. Correlation between PRISM and SIBDQ, PHQ-9 and SCCAI were evaluated by Spearman correlation. BL characteristics are based on observed data.

Results: BL characteristics of 63 UK patients in ICONIC are shown in Table 1. From BL to 2-years, patient/physician PRISM was

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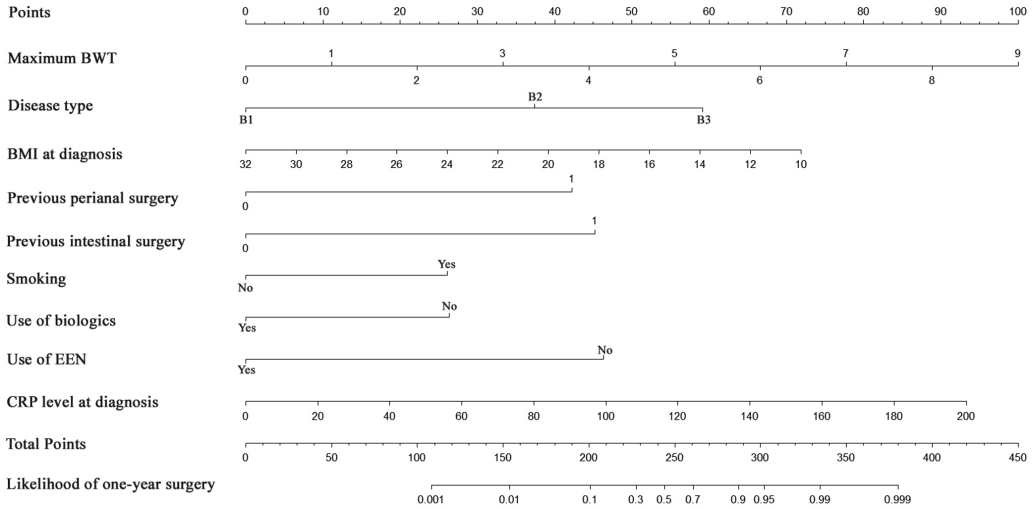

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Table 1. Baseline clinical and demographic characteristics of UC patients in ICONIC in the UK

Characteristics	All patients (n=63 unless specified)
Sex, n (%)	
Female	37 (58.7%)
Age, years	
Mean ± SD	43.4 ± 15.7
Time since UC diagnosis, days	
Median (25% Q, 75% Q)	126 (59, 260)
Duration of symptoms prior to UC diagnosis, n (%)	
<1 year	48 (76.2)
1 – 3 years	8 (12.7)
>3 years	7 (11.1)
Physician-assessed disease severity since diagnosis, n (%)	
Improved	45 (71.4)
Worsening (flare)	8 (12.7)
Remains similar	10 (15.9)
Endoscopic findings, n (%)	
Normal/Inactive	1 (1.6)
Mild	7 (11.1)
Moderate	12 (19.0)
Severe	5 (7.9)
Not available/Unknown	38 (60.3)
Extraintestinal manifestations (EIMs), n (%)	
≥ EIM at baseline	13 (20.6)
Uveitis	3 (4.8)
Erythema nodosum	2 (3.2)
Ankylosing spondylitis	1 (1.6)
Primary sclerosing cholangitis	1 (1.6)
Psoriasis	1 (1.6)
Pyoderma gangrenosum	1 (1.6)
Hidradenitis suppurativa	0 (0.0)
Psoriatic arthritis	0 (0.0)
Rheumatoid arthritis	0 (0.0)
Other	6 (9.5)
Physician assessment of UC severity, n (%)	
Mild	18 (28.6)
Moderate	18 (28.6)
Severe	11 (17.5)
In remission	16 (25.4)
SIBDQ	
Mean ± SD	47.0 ± 13.6
PHQ-9, mean ± SD	
All patients (n=63)	7.2 (6.6)
Mild UC (n=18)	6.6 (4.9)
Moderate UC (n=18)	8.1 (6.9)
Severe UC (n=11)	12.3 (8.5)
UC in remission (n=16)	3.4 (3.7)
Any treatment since UC diagnosis, n (%)	62 (98.4)
Response to current UC treatment, n (%)	
Not applicable/no current treatment	4 (6.3)
Too early to assess	7 (11.1)
Complete response	24 (38.1)
Partial response	24 (38.1)
No response	4 (6.3)

Table 2. Spearman correlation coefficients between selected instruments from BL to 2-years*

Variables, r (p-value)	Baseline	1-Year	2-Years
SCCAI (physician) vs. SCCAI (patient)	0.86 (<0.0001) n=62	0.79 (<0.0001) n=40	0.72 (<0.0001) n=34
SCCAI (physician) vs. PRISM (physician)	-0.64 (<0.0001) n=63	-0.69 (<0.0001) n=42	-0.64 (<0.0001) n=34
PRISM (patient) vs. PRISM (physician)	0.67 (<0.0001) n=63	0.58 (<0.0001) n=42	0.60 (0.0004) n=31
PRISM (patient) vs. SIBDQ	0.71 (<0.0001) n=63	0.66 (<0.0001) n=41	0.74 (<0.0001) n=33
PRISM (patient) vs. PHQ-9	-0.56 (<0.0001) n=63	-0.65 (<0.0001) n=41	-0.48 (0.0044) n=33
PRISM (patient) vs. SCCAI (patient)	-0.58 (<0.0001) n=62	-0.68 (<0.0001) n=41	-0.67 (<0.0001) n=33

* Only patients with data available for both measures at each time point are shown.

moderately/strongly correlated with SIBDQ, PHQ-9, P-SCCAI or SCCAI (Table 2). For 62 patients with self and physician assessments, the level of agreement on disease severity at BL (concordant pairs) was: mild 66.7%, moderate 27.8%, severe 45.5%, in remission 50.0%. The mean ± SD P-SCCAI and physician SCCAI values at 2 years were 2.6 ± 2.6 and 1.5 ± 1.5, respectively; the measures were strongly correlated (Table 2). For patient/physician PRISM assessments at 2 years, scores were 5.2 ± 2.6 and 5.2 ± 2.1, respectively, and were moderately/strongly correlated (Table 2).

Conclusion: Results from this subanalysis of ICONIC demonstrate persistently high UC disease burden over 2-years, despite treatment. EIMs were common and therefore awareness of potential EIM impact is essential. PRISM, used for the first time in UC, was moderately correlated with disease-specific measures (SIBDQ/SCCAI) and a general depression assessment (PHQ-9). Alignment between patients and physicians on disease activity/severity varied according to the instrument used but was greatest for SCCAI.

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Prospective validation of faecal calprotectin as a predictor of steroid failure in patients with acute severe colitis

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Background: Optimal outcomes in acute severe colitis (ASC) are related to time-bound management based upon an early prediction of response to intravenous (IV) corticosteroids. We have demonstrated good diagnostic accuracy of day 3 faecal calprotectin (FCP) in this setting. The present study intended to validate these findings in a different cohort.

Methods: This prospective cohort study included IV steroid naïve (for this episode) patients with ASC, satisfying Truelove and Witts' criteria, hospitalised from September 2018 to August 2019. Patients were subjected to baseline sigmoidoscopy, day 1 and day 3 faecal calprotectin, baseline hemogram and biochemistry, and day 3 CRP. All patients received IV steroids after hospitalisation, and the primary outcome measure was steroid-failure defined as colectomy and/or rescue therapy with ciclosporin or infliximab during admission.

Results: Of 47 patients with ASC, eight were excluded (four received steroids outside, 2-directly taken for surgery/infliximab therapy, 1-toxic megacolon on day 1, 1-infectious colitis), 39 were finally included [mean age–36.08 ± 12.58 years, male (30.7%)]. Fifteen patients (38.5%) failed IV steroids and required rescue therapy (10 infliximab, 2 cyclosporine, four surgery). On univariate analysis, the factors significantly different between steroid responders and steroid failure included UCEIS >6 at baseline, Day 1 and Day 3 FCP, day 5 stool frequency, day 5 ESR and CRP, and oxford criteria (Figure 1). On multivariate analysis, only D3 FCP, UCEIS at baseline and Oxford criteria were significant predictors of steroid failure. Like the previous study, on ROC curve analysis, the day 3 FCP had similar diagnostic accuracy [AUC-0.86(0.75–0.98), and 1120.61 μg/g as a cut-off could predict steroid failure with 87% sensitivity and 79% specificity. Similarly, a combination of baseline UCEIS>6 and day 3 FCP>1120.61 μg/g had 100% specificity and positive predictive value for steroid failure.

Conclusion: FCP retained its value as an objective predictor of steroid failure in ASC.

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Clostridium difficile infection in pre-existing inflammatory bowel disease: Management and outcomes

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Background: Inflammatory bowel disease (IBD) is a recognised risk factor for clostridium difficile infection (CDI), and CDI in an IBD patient is associated with higher morbidity and mortality. It is thought that factors including alterations in the gut microbiome, mucosal disruption and immunosuppression provide a synergistic environment for CDI to complicate an IBD flare. Despite this, there is conflicting evidence available on management. Our aim was to examine a series of recent cases to assess our own practice and subsequent outcomes.